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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,679	08/01/2001	Juliana H.J. Brooks	BLP:101 (a) US-CIP	6650

7590 04/06/2004

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EXAMINER	
WEBER, JON P	

ART UNIT	PAPER NUMBER
1651	

DATE MAILED: 04/06/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/919,679	BROOKS ET AL.	
	Examiner	Art Unit	
	Jon P Weber, Ph.D.	1651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 January 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-15* is/are pending in the application.

4a) Of the above claim(s) *5 and 6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 7-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Status of the Claims

The response filed 15 January 2004 has been received and entered. Claims 1-15 have been presented for examination.

Election/Restrictions

This application contains claims 5-6 drawn to an invention effectively non-elected **without** traverse in the Paper filed 21 April 2003. It is suggested that a complete reply to the final rejection include cancellation of the non-elected claims. Claims 1-4 and 7-15 remain to be considered on the merits.

Claim Rejections - 35 USC § 101/112

Claims 1-4 and 7-15 stand rejected under 35 U.S.C. 101 and/or 112, first paragraph because the disclosed invention is inoperative and therefore lacks utility and enablement.

It is argued that the claims recite three steps: 1. Determining, 2. Duplicating, and 3. Exposing. It is urged that determining the spectral pattern or the at least one frequency is practicable by persons of ordinary skill in the art given the instant disclosure. It is urged that the spectral patterns to be used are not special but ordinary patterns known in the art. It is urged that once the frequencies and patterns are known it is a simple matter to duplicate the pattern or frequency and expose the reaction system thereby so as to augment the physical catalyst as claimed. It is urged that these are straight-forward and well supported concepts. In further support articles by Luntz (2003) and by Beck et al. (2003) are provided. (Luntz is a commentary

on the work of Beck et al.). It is argued that examples 5 and 6 show augmenting a physical catalyst .

The work by Beck et al. does not support the instant claims. Beck et al. are specifically providing laser excitation into the fundamental stretch vibration, ν_3, and the first overtone, $2\ \nu_3$, of the substrate, not the catalyst!!! Thus, the spectral energy is not a frequency or pattern of the catalyst as instantly claimed. Beck et al. are, in fact, using classical spectrochemical methods that augment the physical catalyst in their study.

The spectral pattern of a catalyst has not been described nor is there any evidence that the spectral pattern of any catalyst has been determined. The kinds of spectroscopic techniques discussed in the specification and argued in the response are well-known spectroscopic methods that look at any one of a number of energy transitions at the atomic and molecular level. It is certainly beyond the scope of this Office action to address each and every known spectroscopic technique and show that it does not correspond to a spectral pattern of the catalyst that can substitute for or augment whatever the catalyst is doing to activate the substrate. The disclosure does not provide a single instance of a spectral pattern that was actually used and does not provide any means of determining a spectral pattern.

Examples 5 and 6 do not show the alleged augmentation because they do not establish that the spectral pattern of the catalyst has been identified or used.

Applicant's arguments filed 15 January 2004 have been fully considered but they are not persuasive. The rejection under 35 U.S.C. 101 and 112, first paragraph are adhered to for the reasons of record and the additional reasons above.

Claim Rejections - 35 USC § 103

Claims 1-4 and 7-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Gdowski et al. (1982), Mitchell et al. (1986), Mitchell et al. (1987), Verheij et al. (1995) and Verheij (1997) in view of Volman (1955) or Volman (1956) with evidence provided by Sansonetti et al. (1994).

It is argued the combination of references uses hindsight alone. It is urged that the references are directed to ordinary photochemistry. It is urged that there is no motivation to combine the references and that the combination does not teach or suggest the combination of determining, duplicating and exposing as claimed.

As remarked in the Office action of 11 July 2003, there are two possible interpretations of the claimed invention: 1) that there is some special electromagnetic spectrum of the catalyst corresponding to its spectral pattern which is distinct from its ordinary observed absorption or emission spectrum, or 2) the "spectral pattern" is indistinguishable from ordinary absorption and emission spectra and the process corresponds to ordinary photochemical processes. The rejection under 101/112, first paragraph is based on interpretation (1), while the rejection under 103 herein is based on interpretation (2). Hence, that the references are directed to ordinary photochemistry was intentional.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the

applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In the instant case, the question of whether the references can be combined is a determination of fact. The primary references establish the photochemical reaction of hydrogen and oxygen with a platinum electrode and the secondary references establish that the platinum electrode emits wavelengths with a frequency corresponding to that needed to catalyze the reaction. Hence, this is not hindsight, but a recognition of the fundamental nature of the photochemical reaction. The second aspect of the rejection, combining the photochemical reaction with the physical catalyst is based upon well established case law, that to combine two methods that perform the same function for their known additive results is *prima facie* obvious. No further motivation to combine is necessary.

Applicant's arguments filed 15 January 2004 have been fully considered but they are not persuasive. The rejection under 35 U.S.C. 103 is adhered to for the reasons of record and the additional reasons above.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon P Weber, Ph.D. whose telephone number is 571-272-0925. The examiner can normally be reached on daily, off 1st Fri, 9/5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Wityshyn can be reached on 571-272-0926. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jon P Weber, Ph.D.
Primary Examiner
Art Unit 1651

JPW
2 April 2004